

The name *Ramphastos piperivorus* Linnaeus revisited

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Discussion of the proper name for the Guianan Toucanet (a member of the ramphastid genus *Selenidera*) first appeared in ornithological literature when Hellmayr (1907) commented on the indeterminacy of *Ramphastos piperivorus* Linnaeus, 1758. Pacheco & Whitney (2006) suggested that the name *R. piperivorus* Linnaeus, 1766, has priority over *Pteroglossus Culik* Wagler, 1827 [= *Selenidera culik* (Wagler, 1827)] for this species. Thereafter, several colleagues questioned the rationale presented in favour of *piperivorus*, arguing that *Ramphastos piperivorus* Linnaeus, 1766, is better considered a homonym of the apparently indeterminate *Ramphastos piperivorus* Linnaeus, 1758. A synthesis of these arguments was published by Walters (2007). That led us to re-examine the case and our conclusion, presented here, agrees with Pacheco & Whitney (2006) that *R. piperivorus* Linnaeus is the applicable name according to the *International code of zoological nomenclature* (ICZN 1999; hereafter, the Code). Its date of publication, however, must be corrected to 1758.

Availability of the name of 1758 and possible homonymy of the name of 1766

Linnaeus (1758) described *Ramphastos piperivorus* in the tenth edition of the *Systema Naturae*, p. 103, as follows: 'piperivorus 1. R[amphastos] rostro nigro: carina crassissima. Habitat in America meridionali.'

Peters (1930) stated that the species is 'absolutely unidentifiable'. However, the Code does not state that indeterminacy provides reason to reject a name. The Code presents only 'criteria of availability'. Chapter 4 (Arts. 10–20) deals with them. It is clear to us that *Ramphastos piperivorus* Linnaeus, 1758, satisfies all these criteria and therefore is an available name. The explanation for the *nomen nudum* in the Glossary of the Code (p. 111) permits additional interpretation of what constitutes an unavailable name and must be considered (Art. 89.1). For names published before 1931, *nomina nuda* would simply be those that 'fail to conform to article 12'. That article deals with the 'requirement' (Art. 12.1) for 'names published before 1931' to be available, stating that they 'must be accompanied by a description or a definition of taxon that it denotes, or by an indication'. Neither Art. 12.1 nor the Glossary for *nomen nudum* stipulates that the description / definition must allow unequivocal identification of the taxon denoted. Because there is a description associated with *Ramphastos piperivorus* in Linnaeus, 1758, the name cannot be considered a *nomen nudum*. More importantly, were the name of 1758 to be considered unavailable as such, then the principle of homonymy would in any case not apply, and the name of 1766 would be automatically validated, as discussed by Pacheco & Whitney (2006).

Peters (1930) considered that, given the brief and unidentifiable description of *R. piperivorus* in 1758, the 1766 usage of *piperivorus* (with its longer description) would relegate it to primary homonymy and thus unavailable. We cannot agree with his conclusions. The 'Principle of Homonymy' (Art. 52.1) applies only 'when two or more taxa are distinguished from each other' and are denoted by the same name. Thus there is a key question to answer: is *Ramphastos piperivorus* Linnaeus, 1758 a different taxon from *Ramphastos piperivorus* Linnaeus, 1766?

The complete history of *Ramphastos piperivorus* Linnaeus

In 1741, the French naturalist and physician Pierre Barrère described a bird from 'Equinoctial France' (= Cayenne, where he lived for five years) as '*Pica minor, rostro denticulato, vario*' and gave it two vernacular names: *Gros Bec* and *Queue de rat*. Four years later, Barrère (1745) described the four toucans and allies known by him at the time in the 'genus' *Rostrata*. The bird called *Gros Bec* and *Queue de rat* was then described as '*Rostrata americana viridans, rostro partim rubro nigro*'. According to Brisson (1760), Barrère was the first naturalist to describe such a bird.

Following Barrère, Linnaeus (1748) described a bird in the sixth edition of the *Systema Naturae* using almost the same words: '*Rostrata viridans, rostro nigro partim rubro*'; the source given by Linnaeus (1748) is 'Barr 51' [= Barrère, p. 51], which unquestionably indicates that they were dealing with the same species. Ten years later, in the critically binominal tenth edition of the *Systema Naturae*, Linnaeus (1758) described *R. piperivorus* in just a few key words ('*rostro nigro*') without any reference to other publications or figures (see above).

Brisson (1760) then described and illustrated (Pl. XXXII, Fig. 2) a toucan, and referenced it as being the same as described in Barrère (1741, 1745) and in Linnaeus (1748). Edwards (1764) also illustrated the species and his painting, as well as that of Brisson, is clearly assignable to the Guianan Toucanet.

Finally, in the 12th edition of the *Systema Naturae*, Linnaeus (1766: 150) gives a longer description of his *R. piperivorus*: '*R[amphastos] viridis antice niger, crisso femoribusque rubris*' and referenced it to the works of Brisson (1760) and Edwards (1764).

It is thus clear to us that the *R. piperivorus* described briefly in Linnaeus (1758) is the same bird species described (without a name and prior to the starting point of zoological nomenclature) in Linnaeus (1748) and that named *R. piperivorus* in Linnaeus (1766). The words used in the descriptions connect the birds from the works of 1758 and 1748 (which explicitly refers to Barrère); the name *piperivorus* connects the birds of the works of 1758 and 1766; and the references cited by Linnaeus connect the bird of the work of 1766 again to Barrère (through Brisson, 1760) and to the unquestionably identifiable bird illustrated by Edwards (1764). There is no reason to believe that the name of 1766 denotes a nominal taxon different from that of 1758, quite the contrary. Thus, the burden of proof must fall on those who assert that an author (Linnaeus), in two editions of a single work (*Systema Naturae*), applied the same name (*R. piperivorus*) to different species. It is important to note that this interpretation was not provided by Pacheco & Whitney (2006) and awareness of it by Walters (2007) is based on correspondence between E. Dickinson, M. Walters, us, and other colleagues.

Application of the Code

Ramphastos piperivorus Linnaeus, 1758, is an available name and the taxon it denotes is precisely identifiable based on an unambiguous combination of external references. The name therefore applies strictly to the Guianan Toucanet and has priority over *Pteroglossus culik* Wagler, 1827. Using a similar approach, Peters (1930) employed external evidence (a plate in Petiver, 1709) to identify another toucan, *Ramphastos tucanus* Linnaeus, 1758, a similar procedure already accepted.

Walters (2007), as well as other colleagues in favour of the name *P. culik* (through private correspondence), gave Peters' (1930) opinion much gravity. Although a minor semantic question, it must be stressed that Peters' 'decision' was merely his interpretation of the case and has no special value. Thus, contrary to Walters (2007), the 'convincing evidences' in favour of one name or another must address the objective availability of

the name *R. piperivorus* Linnaeus rather than trying to 'negate Peters' decision to reject *Ramphastos piperivorus* Linnaeus'.

Finally, because *Selenidera* is feminine and *piperivorus* is an adjective, the correct combination of *piperivorus* Linnaeus, 1758 in the genus *Selenidera* is *S. piperivora*.

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Authorship of the broadbill genus name *Calyptomena* and the correct citations for this and *Calyptomena viridis* Raffles

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The Green Broadbill *Calyptomena viridis* occurs or has occurred recently throughout lowland Borneo, Sumatra, and far-western mainland Southeast Asia from the Thai-Malay Peninsula north to latitude *c.*16°N (Wells 2007). First-described member of the genus, its names have long been attributed to T. S. Raffles (Raffles 1822), including by us (Dekker & Dickinson 2000, Wells 2007). However, a coloured plate, anatomical drawings and text all titled *Calyptomena viridis* also appeared in the fourth part of T. Horsfield's *Zoological*